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SOUTHWEST GAS CORPORATION

Arizona Corporation Commission
DOCKETED
JUN 11 2009
DOCKETED BY

June 9, 2009

Docket Control Office
Arizona Corporation Commission
1200 West Washington Street
Phoenix, AZ 85007

Re: G-01551A-09-0039 – Decision No.70959

Please accept the enclosed original and thirteen (13) copies of Southwest Gas Corporation's (Southwest) Proposal to Supplement and Modify its Arizona Demand Side Management Plan (Plan) for Program Years 2009 and 2010.

The enclosed Plan is submitted in response to the Commissioners' comments and requests during their deliberation of Decision No. 70959, in the matter of resetting Southwest's Demand Side Management (DSM) adjustor rate. The proposals set forth in the Plan are intended to increase customer participation and to align program spending with Commission authorized budget levels.

Should you have any questions regarding this matter, please do not hesitate to contact me. You may reach me directly at (702) 876-7163.

Thank you for your assistance in this matter.

Respectfully,

Debra S. Gallo
Director/Government and State Regulatory Affairs

Enclosures

c: Robert G. Gray, ACC Staff
Julie Mcneely-Kirwan, ACC Staff

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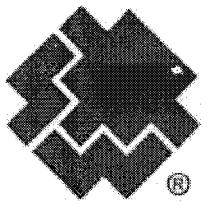


SOUTHWEST GAS CORPORATION

PROPOSAL TO SUPPLEMENT AND MODIFY THE ARIZONA DEMAND SIDE MANAGEMENT PLAN FOR PROGRAM YEARS 2009 AND 2010

June 9, 2009

OVERVIEW

PROPOSAL TO SUPPLEMENT AND MODIFY THE ARIZONA DEMAND SIDE MANAGEMENT PLAN FOR PROGRAM YEARS 2009 AND 2010

OVERVIEW

Southwest Gas Corporation (Southwest) hereby submits its proposal for supplementing and modifying its existing Demand Side Management (DSM) Plan for program years 2009 and 2010. This proposal is in response to the Commissioners' requests in their deliberations for Decision No. 70959, in the matter of resetting Southwest's DSM adjuster rate. Ordering Paragraph No. 10 in Southwest's most recent General Rate Case (Docket No. G-01551A-07-0504, Decision No. 70665), also requires that "Southwest shall fund its DSM budget initially at the $4.4 million level recommended by Staff, with additional $1 million incremental increases for the years 2010 through 2012." Southwest anticipates that the proposals included in this supplement and modification to its DSM Plan will accelerate the ramp up of the programs. Southwest's proposals include: 1) a request for funding flexibility among the various DSM programs, along with the ability to move funds from measure to measure within each individual program; 2) proposed modifications to existing DSM programs; and 3) new DSM program proposals.

On February 23, 2006, the Commission issued Decision No. 68487 in Southwest's general rate case increasing Southwest's DSM funding to $4,385,000 annually. In Decision No. 70665, issued on December 24, 2009, the Commission approved increasing Southwest's annual budget to $5.4 million in 2010, $6.4 million in 2011, and $7.4 million in 2012. Southwest currently has six DSM programs approved by the Commission with a total approved budget of $3,210,000. The attached Plan is designed to comply with those Commission directives.

The following provides an overview of Southwest's proposals for supplementing and modifying its existing DSM Plan.

Program Descriptions

The proposal includes a mix of programs designed to serve and benefit Southwest's major customer classes. Specific customer segments served include low-income residential customers, residential new construction, existing residential consumers, commercial customers, and large/industrial customers.

Southwest currently has six programs approved by the Commission. These programs include:

- ENERGY STAR® Home (Decision No. 69665)
- Low-Income Energy Conservation (Decision No. 69405)
- Consumer Products (Decision No. 69916)
- Commercial Equipment, including Pre-Rinse Spray Valves (Decision No.69880, Decision No. 69666)

- Technology Information Center (Decision No. 70526)
- Distributed Generation (Decision No. 69917)

Southwest is proposing modifications to the above-referenced existing DSM programs, along with supplementing its DSM Plan with two new programs. A brief description of each proposed DSM program is included in this section. Detailed program modifications and descriptions are provided in subsequent sections (when applicable) and include information on program objectives, target markets, baseline conditions, customer eligibility, program objectives, products and services provided, delivery strategy, program administration, communication, implementation plans, measurement and evaluation plans, program budgets, estimated energy savings, estimated environmental benefits, and cost-effectiveness. The proposal for supplementing and modifying its existing DSM Plan includes:

Proposed Modifications to Existing Programs:

- Low-Income Energy Conservation program
  - Funding flexibility
- Technology Information Center program
  - Budget reallocation
- Distributed Generation program
  - Budget increase
- ENERGY STAR® Home program
  - Addition of two new measures
  - Modification of Incentive
- Consumer Products program
  - Addition of two new measures
- Commercial Equipment program
  - Addition of three new measures

Proposed New Programs:

- Large Commercial Energy-Efficient Boiler program
- Solar Thermal Advantage Rebate program

A brief description of each program is included below.

Low-Income Energy Conservation Program: The Low-Income Energy Conservation (LIEC) program provides qualified limited-income customers with money-saving improvements that reduce energy use in their homes through home weatherization measures. The program will be administered by Southwest in conjunction with the Arizona Housing Division. The Arizona Housing Division manages the Department of Energy's statewide Weatherization Assistance Program in Arizona and sub-contracts with local community agencies to install the home weatherization measures. The home weatherization measures will focus on four major categories: (1) duct repair; (2) infiltration control; (3) attic insulation; and (4) replacement of

natural gas furnaces, which are not operational or pose a health hazard. The LIEC program also offers emergency bill assistance to customers in need. Bill assistance funding is available for low-income customers to use in emergency situations to pay all or a portion of their natural gas bill.

Technology Information Center Program: The Technology Information Center program is available for industrial and large/transportation-eligible general service customers. The program consists of sending an e-mail newsletter containing technical information to customers, to provide advice on how to use energy efficiently, reduce energy usage and lower utility bills, answer questions about energy-efficient technologies, and increase awareness of general environmental and energy issues. The newsletter also provides general natural gas information of interest to large customers, but will focus on specific energy savings or technology information that will help customers optimize natural gas resources.

Distributed Generation Program: The Distributed Generation program consists of an incentive designed to encourage the installation of high-efficiency Combined Heat and Power (CHP) technologies. CHP describes any system that simultaneously or sequentially generates electric or mechanical energy and utilizes the thermal energy that is normally wasted. This program is intended for commercial and industrial customers utilizing general service or transportation tariffs, depending upon the potential application.

ENERGY STAR® Home Program: The ENERGY STAR® Home Program (ESTAR) is a single-family new construction program that offers an incentive for ESTAR inspections and certification along with high efficiency water heater and ENERGY STAR® certified furnace installation. ESTAR is designed to increase residential energy efficiency through improved thermal shell construction, upgraded mechanical systems, and field verification. The program involves the recruitment of builders into the program, review of their home plans, consultation on effective construction techniques required to meet the guidelines, and inspection and testing of the homes for compliance.

Consumer Products Program: Incentives will be offered to participating residential customers on qualified program measures upon proof of purchase and/or installation. The measures to be included are: high-efficiency tank water heaters, tankless water heaters, ENERGY STAR® qualified clothes washers and high-efficiency natural gas clothes dryers (purchased together), ENERGY STAR® programmable thermostats, and Roadrunner Evolve thermo-actuated low-flow showerheads (smart showerheads). The program is available for all new and existing residential homes and small commercial applications within Southwest's Arizona service areas.

Commercial Equipment Program: The Commercial Equipment program is designed to encourage the purchase of higher efficiency storage water heaters, tankless water heaters, griddles, steamers, fryers, and combination ovens among both new and existing commercial customers by offering financial incentives. These customers could represent any establishments where such appliances are utilized, including restaurants, schools, hospitals and churches. The high-efficiency commercial equipment included in this program use a large amount of energy; therefore, the potential for energy savings is significant. However, initial

equipment cost is an obstacle. This initial cost barrier can be overcome with appropriate financial incentives, coupled with education on the benefits of greater efficiency.

Large Commercial Energy-Efficient Boiler Program: The Large Commercial Energy-Efficient Boiler program is designed to encourage the maintenance, replacement and new purchase of high efficiency boilers. Commercial boilers are utilized by hundreds of Southwest's Arizona customers. This equipment often consumes the majority of the natural gas used on-site. When maintenance and part replacements are not performed on this equipment, the efficiency of these boilers will decline. This program is intended for both new and existing large commercial and industrial customers.

Solar Thermal Advantage Rebate Program: The Solar Thermal Advantage Rebate (STAR) program is intended to encourage the purchase of solar thermal water heaters and solar thermal space heating utilizing flat plate collectors when installed in conjunction with a natural gas water heater and/or natural gas furnace. The primary objective of the STAR program is to increase awareness of solar thermal hot water and space heating systems; and to reduce natural gas usage by providing economically beneficial incentives to install the systems. Long-term customer energy savings can be realized throughout the life of the solar thermal equipment. The program is available for all residential customers and new home builders constructing homes within Southwest's Arizona service areas.

Timeline

Southwest utilized a two-year planning horizon for its proposals set forth in this filing, with a start date of 2009. Southwest requests Commission approval of the DSM Plan as a whole, instead of approving the programs separately, as has been done in the past. This will simplify the administration of the programs, including budget allocations and program planning. Actual implementation dates will depend on the time needed for ACC Staff review and Commission approval.

Arizona DSM Plan Budget

Consistent with Decision No. 68487, Southwest has prepared the 2009 annual budget for the proposed DSM programs totaling $4.385 million. The proposed funding maximizes the amount of program funds that go directly to customers through education, training, financial incentives, and technical assistance. Incentive levels and other program elements will be reviewed and modified as needed, in an effort to adjust to changes in the various markets and to optimize the utilization of the authorized DSM funding.

Southwest believes that achieving optimal funding and program performance requires regular, ongoing dialog among the stakeholders, including flexibility to easily and quickly modify programs and spending as conditions change. Southwest requests flexibility to move funds among the various approved DSM programs to ensure all available funds are dispersed in the most cost-effective manner possible. Additionally, Southwest requests approval to move funds from measure to measure within each individual program. In order to spend all program

funds each calendar year, Southwest requests the flexibility to redistribute any unspent administration and outreach funds to the incentive categories in each program.

The overall budget for the programs presented in this filing is indicated in Table 1 below. The table outlines the current approved 2009 budget, along with the 2009 and 2010 requested budgets.

Table 1 – DSM 2009 and 2010 Plan Budget

Proposed DSM Budget for Arizona 2009, 2010			
Programs	**Current Budget**	**2009 Budget**	**2010 Budget**
Low-Income Energy Conservation	$ 650,000	$ 650,000	$ 650,000
Technology Information Center	$ 35,000	$ 15,000	$ 15,000
Distributed Generation	$ 400,000	$ 400,000	$ 700,000
ENERGY STAR® Home	$ 350,000	$ 800,000	$ 950,000
Consumer Products	$ 529,300	$ 529,300	$ 700,000
Commercial Equipment / Pre-Rinse Spray Valve	$ 170,500	$ -	$ -
Commercial Equipment	$ 829,500	$ 990,700	$ 1,111,000
Large Commercial Energy- Efficient Boiler	$ -	$ 500,000	$ 650,000
Solar Thermal Advantage Rebate	$ -	$ 500,000	$ 609,000
Total	**$ 2,964,300**	**$ 4,385,000**	**$ 5,385,000**

Cost Recovery

Cost recovery for the DSM programs proposed in this filing will be handled through the existing DSM Adjuster Mechanism (DSMAM), which was approved by the ACC in Docket No. U-1551-96-596 (Decision No. 60352). The DSMAM is designed to allow Southwest timely and ongoing recovery of its DSM program costs. Decision No. 68487, issued on February 23, 2006, expanded the responsibility for payment of the surcharge to all full-margin customers.

Southwest's current surcharge rate is $0.00423 per therm (Decision No. 70959), which allows for recovery of the cost of conducting the DSM programs.

Program Cost-Effectiveness and Societal Benefits

The supplements and modifications to its existing DSM Plan proposed by Southwest provide energy savings, water savings, and emissions reductions through energy-efficient products,

services, and/or practices. The programs are designed to influence energy decisions by both residential and non-residential customers through a combination of education, training, financial incentives, and technical assistance. The proposed supplements and modifications are expected to produce long-term energy savings, participating customer bill savings, and positive environmental impacts.

Conclusion

Southwest believes that the proposed supplements and modifications to its existing DSM Plan will benefit its customers, citizens in the state of Arizona, and the Arizona environment. The Company has included programs that serve all major customer classes: residential, commercial, and industrial, including some hard-to-reach and underserved segments within those classes. In addition, the proposed supplements and modifications will reach customers throughout many areas within the state of Arizona.

With increased program availability and customer outreach, Southwest hopes to affect greater customer awareness and behavioral change with regard to energy efficiency. The estimated program results indicate cost-effectiveness and positive benefits for Southwest's customers and Arizona in general. It is anticipated that these DSM programs will make a positive contribution in terms of saving energy resources, lowering participating customer utility bills, improving air quality, and conserving water.

Southwest looks forward to working with the ACC Staff during the program review period and, in turn, to Commission approval and successful DSM program implementation.

DSM PROGRAMS

LOW-INCOME ENERGY CONSERVATION

LOW-INCOME ENERGY CONSERVATION PROGRAM

Background

The Low-Income Energy Conservation program (LIEC) is currently in its eleventh year of operation. Southwest began the program in 1998, as authorized in Decision No. 60976. The Commission approved a two-year continuation of Southwest's LIEC program in July 1999 (Decision No. 61853). In June 2001, Southwest was granted an extension of the program through June 2004 (Decision No. 63844) at an increased funding level of $350,000 as well as the addition of a health and safety category. The program was granted another three-year extension in June 2004 (Decision No. 67111) through June 2007.

On February 23, 2006, the Commission issued Decision No. 68487, allowing Southwest to include a $50,000 bill assistance fund as part of the LIEC program. This decision mandated that any unspent portion of the $50,000 bill assistance funding be allocated to the general LIEC weatherization program. In April 2007, Southwest was granted another extension of the LIEC program and an increased funding level of $500,000. Of the proposed increase, $50,000 would fund emergency bill assistance.

In October 2008, Southwest applied for an increase in bill assistance funding and defined the program in specific detail, outlining the Arizona Community Action Association (ACAA) as the administrator of the funds, and with an equal funding distribution among nine community agencies. In the application, Southwest requested an increase in funding from $50,000 to $100,000 and indicated that the funds would be spent equally among the nine agencies. In December 2008, the Commission issued Decision No. 70660 in which it granted a $200,000 increase in bill assistance funding to be equally allocated to the specifically-defined nine agencies under ACAA's umbrella.

Program Modifications

To ensure all funds are spent each calendar year, Southwest proposes two modifications to the existing bill assistance portion of the LIEC program. First, Southwest proposes that the ACAA be allowed to determine which agencies are best suited to disburse the funds and that prior approval to incorporate an additional agency and/or eliminate an agency not be required as long as the public is benefiting from the distribution of funds. Filing for approval requires valuable time and inhibits the ACAA's ability to help those most in need. Southwest proposes to provide written notification to the Director of Utilities within 30 days of any community agency changes.

Second, since the funding was increased to $200,000, several small outlying agencies have been unable to handle and spend the additional funding due to the amount of funding available compared with the number of customers in the service territory. Southwest proposes that the ACAA be allowed to distribute the funding based on a formula taking into account population density, poverty levels and Southwest's customer density. With this modification, the ACAA will require that each agency under contract receive a minimum of $5,000, in

accordance with the original Decision. Southwest believes providing ACAA with more flexibility will increase the capabilities of each agency to disburse their funds and thereby reach a greater target population where the funding is most needed. we should include a notification component. How about we send a letter to the Director of Utilities 30 days before we make a change?

The renewal of contracts continues to be a challenge when looking at redistributing funds between the LIEC weatherization program and bill assistance; however, Southwest will continue to transfer any unspent bill assistance funds to the LIEC program as is necessary. Southwest proposes continuing the LIEC weatherization program, including the bill assistance portion, through June 30, 2011. The budget will remain the same for both program years.

Table 1 – Arizona Total Estimated Budget

Low-Income Energy Conservation Program		
Description	**2009 - 2010 Program Budget**	**2010 - 2011 Program Budget**
Weatherization/Health/Safety Components of LIEC Program		
Implementation		
Weatherization	$ 200,500	$ 200,500
Health & Safety	93,000	93,000
Special Project	60,000	60,000
Training and Monitoring Costs	20,000	20,000
Subtotal	**$ 373,500**	**$ 373,500**
Program Support		
Administration-Arizona Energy Office	$ 22,500	$ 22,500
Community Action Agencies	45,000	45,000
Information/Outreach - Southwest	9,000	9,000
Subtotal	**$ 76,500**	**$ 76,500**
Total	**$ 450,000**	**$ 450,000**
Emergency Bill Assistance Component of LIEC Program		
Implementation		
Emergency Bill Assistance	$ 185,000	$ 185,000
Program Support		
Administration-ACAA	$ 15,000	$ 15,000
Subtotal	**$ 200,000**	**$ 200,000**
Total	**$ 650,000**	**$ 650,000**

TECHNOLOGY INFORMATION CENTER

TECHNOLOGY INFORMATION CENTER PROGRAM

Background

The Commission approved Southwest's Technology Information Center (TIC) program as a pilot program on June 28, 2007, in Decision No. 69667. In September 2008, the Commission issued Decision No. 70526, ordering Southwest to: continue the TIC program for an additional year, with modifications, and file for program renewal on October 1, 2009; provide three months of sample newsletters with the renewal application along with a copy of the survey; continue to focus the content of the newsletter on energy-saving equipment and processes for large end-users; and continue to promote Southwest's DSM programs designed for commercial and industrial customers, providing contact information for potential DSM program participants.

The Decision also ordered Southwest to work to improve the level of response to future surveys, including follow-up with non-responding recipients; promoting free energy consultations, including contact information on an ongoing basis in the *Energy Line*; keeping the annual surveys in place, with a focus on questions concerning the actual energy savings experienced by newsletter recipients; and performing bill comparisons to establish whether the customers receiving the newsletter have been able to decrease usage. The status of the TIC program is reported in Southwest's semi-annual DSM reports.

Program Modifications

Southwest is in compliance with Decision No. 70526 and will apply for renewal of the TIC program on October 1, 2009. The 2009 survey results clearly demonstrate the value of *Energy Line* to Southwest's largest customers, and speak to the desirability of continuing the TIC program. However, based on previous program expenditures, Southwest is proposing to reduce the TIC program budget from $35,000 to $15,000 annually. The reduction will in no way impact the quality or content of the program, but is a better representation of Southwest's current program costs. As referenced in Southwest's March 2009 Semi-annual DSM report, a total of $7,281 was spent during the 2008 program year. Reallocating $20,000 of the currently approved program budget towards another DSM program will allow Southwest to fully utilize its approved overall DSM budget.

DISTRIBUTED GENERATION

DISTRIBUTED GENERATION PROGRAM

Background

On September 27, 2007, Southwest's Distributed Generation (DG) Program was approved in Decision No. 69917. DG is defined as localized, on-site power generation, typically deployed through the use of modular technologies. The approved DG program encourages the installation of high-efficiency Combined Heat and Power (CHP) technologies. CHP describes any system that simultaneously or sequentially generates electric or mechanical energy and utilizes the thermal energy that is normally wasted. Most CHP systems are configured to generate electricity or mechanical power, recapture the waste heat, and use that heat for space heating, water heating, industrial steam loads, air conditioning, humidity control, water cooling, product drying, or any other thermal need. Alternately, CHP may use excess heat from industrial processes and convert it into electricity. This program is intended for commercial and industrial customers utilizing general service or transportation tariffs, depending upon the potential application.

Program Modifications

Southwest is proposing to continue the Distributed Generation Program with an increase in budget for the second program year. It is anticipated that the economy will begin to improve in 2010 and Southwest would like to be able to aid more than one customer with this incentive. Southwest proposes a total annual program budget of $400,000 for 2009 and $700,000 for 2010. See Table 1 for administrative, outreach and incentive rebate details.

Table 1 – Arizona Total Estimated Budget

Distributed Generation Program Arizona Total Estimated Budget		
Description	**2009**	**2010**
Outreach	$ 10,000	$ 10,000
Administration	$ 40,000	$ 40,000
Incentives/Rebates	$ 350,000	$ 650,000
Total	**$ 400,000**	**$ 700,000**

ENERGY STAR® HOME

ENERGY STAR® HOME PROGRAM

OVERVIEW

Program Description

The ENERGY STAR® Home (ESTAR) program was approved by the Commission on June 28, 2007, in Decision No. 69665. Southwest offers the ESTAR program to increase the participation of Arizona home builders in building more energy-efficient housing. As a performance-based, "whole-house" program, ESTAR is designed to increase residential energy efficiency through improved thermal shell construction, upgraded mechanical systems, and the use of high efficiency gas equipment. The overall energy efficiency for participating homes must be at least 15 percent greater than for homes built to the most recent version of the International Energy Conservation Code (IECC) to qualify for the ENERGY STAR® certification.

Southwest is proposing to revise the ESTAR program to include additional incentive rebates for the standard installation of high efficiency/tankless water heating and/or ENERGY STAR® certified furnaces. The high efficiency/tankless water heater and furnace must be installed in addition to the ENERGY STAR ® certification.

Program Objective

The overall objective of this energy-efficient program is greater residential energy efficiency. ENERGY STAR® has identified and laid out a national cost-effective and detailed path to increased energy-efficient housing. The program seeks to increase customer awareness, encourage the use of energy-efficient practices and new technologies in residential homes, and achieve cost-effective natural gas savings.

PROGRAM DESIGN

Qualifying Customers

All new single-family home builders with homes featuring standard natural gas heating and water heating are eligible to participate in the program. Builders must register with the Environmental Protection Agency as ENERGY STAR® partners and agree to meet ESTAR program specifications.

List of Qualified Conservation and Energy Efficiency Measures

ESTAR homes must achieve at least a 15 percent improvement in residential energy consumption over similar homes built to the most current version of the IECC standards. Performance is modeled with REM/Rate, a user-friendly, yet highly sophisticated, residential energy analysis, code compliance and rating software. REM/Rate calculates heating, cooling, hot water, lighting, and appliance energy loads, consumption and costs for new and existing single and multi-family homes. Specific factors include:

- Window area, U-factor, solar heat gain coefficient (SHGC), orientation, and shading
- Door R-value and size
- Wall cavity insulation R-value, cavity insulation quality, continuous insulation R-value and framing factors
- Ceiling insulation R-value and quality, and radiant barrier
- Floor insulation, cantilevers, over-garage area, etc.
- Water heater efficiency
- Lighting and appliance efficiency
- HVAC equipment efficiency, programmable thermostat
- Duct location and leakage
- Whole-house infiltration
- Site factors for heating and cooling degree days, wind
- Wall and roof color

For the purposes of this analysis, base case homes are considered to be IECC 2006 compliant homes. Energy savings in comparison to actual codes may be higher, which is often the case. Table 1 shows the REM/Rate energy analysis for an average home, based on plans submitted by participating builders. Table 2 shows estimated incremental cost-per-home for upgrades to ESTAR qualifying measures.

Table 1 – Estimated Annual Loads per REM/Rate Analysis of 1,834 Square Foot Home

REM/Rate Analysis	Heating MMBtu	Cooling MMBtu	Water Heating MMBtu	Lighting & Appliance MMBtu	Total MMBtu	Percent Savings over IECC
Standard 2006 IECC- Compliant Home	20.7	41.5	9	23.9	95.1	n/a
ENERGY STAR® Minimally-Compliant Home	17.6	35.3	7.9	20.3	81.1	14.70%
Typical ENERGY STAR® Home as Designed[1]	12.9	31.5	8.1	22.3	74.9	21.20%

[1] Note the higher level of performance in the typical as-designed home in Southwest's ESTAR program.

Table 2 – Estimated Incremental Cost-Per-Home for ESTAR Measures to Upgrade Thermal Shell, Mechanical System, Lights, and Appliances

Measures	Standard Construction	EStar Construction	Incremental Cost
Insulation upgrades, thermal bypass compliance, duct sealing, and programmable thermostat	$2,243	$2,857	$614
High Efficiency Water heater with an EF of .62 or higher / Tankless Water Heater	$310	$415 / $830	$105 / $520
Lighting and appliances including ENERGY STAR®-labeled dishwasher and light fixtures	$420	$540	$120
High Efficiency Furnace with an Annual Fuel Utilization Efficiency (AFUE) of 90% or higher	$6,800	$7,400	$600
Total	**$9,773**	**$11,212 / $11,627**	**$1,439 / $1,854**

Program Incentives

To receive the incentive rebates, builders must meet program qualification criteria and work with Southwest's Service Planning department to obtain reimbursement for ESTAR program participation. Table 3 below provides a breakdown of the incentive opportunities proposed.

Table 3 – Incentive Amounts and Estimated Incremental Cost-Per-Home for ESTAR Measures

Measures	Incentive Amount	Incremental Cost
ENERGY STAR® Certification	$225	$225
High Efficiency Water Heater / Tankless*	$100/$200	$105/$520
Furnace*	$400	$600
Total	**$725/$825**	**$830/$1,245**

*The high efficiency water heater and furnace must accompany the ENERGY STAR® home certification.

Incentive Limitations

The following requirements apply:

- Homes must meet ESTAR requirements for certification by becoming ENERGY STAR® certified along with installing a natural gas water heater and furnace.

- ESTAR certification must be performed by an approved independent Residential Energy Service Network (RESNET) rater (not another utility) to qualify for the $225 incentive.

- New home builders participating in the ESTAR program are not eligible to participate in the tankless natural gas water heater measure under Southwest's Consumer Products Program.

- To qualify for the water heater rebate the builder must have the home registered for ENERGY STAR® certification and show verification of the installation of a unit with a .62 EF or higher.

- A builder can receive a $100 incentive for installing a high efficiency storage water heater or a $200 incentive for installing a tankless water heater with an EF greater than .80.

- To qualify for the furnace rebate, the builder must have the home registered for ENERGY STAR® certification and provide verification of the installation of a unit with a 90% or higher AFUE.

Program Participation

Table 4 details the number of estimated homes Southwest anticipates will meet or exceed the guidelines to be certified as ENERGY STAR® homes.

Table 4 – Projected Level of Participation per year for two-year program

ENERGY STAR® Home Program Projected Participation	
2009	**2010**
849	1,030

Program Outreach

To maximize participation in the program, a strategic outreach plan will be targeted to home builders within Southwest's Arizona service areas. An outreach campaign will be designed to build awareness of the program and the benefits of building energy-efficient homes in Arizona.

As with all Southwest energy efficiency programs, education and awareness outreach will incorporate this program into the overall energy efficiency campaign advertisements and strategies.

The objectives of the outreach efforts will be to increase the number of homes built to ENERGY STAR® standards in Arizona. The goal of the ESTAR program is to encourage

builders in Southwest's service areas to build new energy-efficient homes up to or greater than the ENERGY STAR® standards.

Target Audiences

Southwest's primary target audience is new, single-family home builders featuring standard natural gas heating and water heating within Southwest's Arizona service areas.

Tools and Resources

Southwest may employ a variety of the following tools and resources to maximize participation in the program including brochures, cooperative advertising, direct mailings, bill inserts, outreach events, trade ally packets, and website announcements.

MEASUREMENT AND EVALUATION

Southwest will track incentives paid to participants, and report program effectiveness. Typical tracking items include:

- Number of builders participating
- Homes committed
- Homes certified
- Energy savings – MMBtu, therms and kWh
- Demand reductions – kW, therms

Southwest will evaluate the success of this program annually and propose changes to the program as necessary.

BUDGET

Southwest proposes a total annual budget of $800,000 in 2009 and $950,000 in 2010. Southwest is proposing an increase in the budget due to the changes in the incentives being offered and the number of homes being certified. See Table 5 for administration, outreach and incentive details.

Table 5 – Arizona Total Estimated Budget

ENERGY STAR® Home Program Arizona Total Estimated Budget		
Description	**2009**	**2010**
Administration	$ 38,500	$ 38,500
Outreach	$ 61,500	$ 61,500
Incentives/Rebates	$ 700,000	$ 850,000
Total	**$ 800,000**	**$ 950,000**

COST-EFFECTIVENESS TEST RESULTS

The cost-effectiveness test ratio for the ESTAR Home program is 4.57. Tables 6, 7, and 8 show the cost-benefit overview, projected annual savings, and projected lifetime savings.

Table 6 – Cost-Benefit Overview

Cost-Benefit Overview Lifetime Savings	
Present Value of Savings	$ 9,536,511
Present Value of Costs	$ 2,088,077
Net Societal Benefit	$ 7,448,434
Cost-Effectiveness Ratio	**4.57**

Table 7 –Projected Annual Savings for 2009

Measure	Unit Gross Annual Savings	Number of Measures/ Participation[1]	Total gross Annual Savings (therms)
Heating (therms)	78	849	66,222
Cooling (kWh)	2,930	849	2,487,570
Water Heating (therms)	9	849	7,641
Dishwasher and CFL's (kWh)	468	849	397,332
Electric Demand (kW)	0.74	849	628

[1] Southwest proposes to increase participation to 1,030 in 2010.

Table 8 – Projected Lifetime Savings

Energy and Environmental Benefit Overview Lifetime Savings		
Natural Gas (Therms)	Electricity (MWh)	CO2 (tons)
3,269,460	318,607	2,095,833

CONSUMER PRODUCTS

CONSUMER PRODUCTS PROGRAM

OVERVIEW

Background

On December 30, 2008, Southwest filed an Application to Continue and Modify the Demand Side Management Consumer Products Program (Docket No. G-01551A-08-0619). In the application, Southwest requested to continue the existing high efficiency water heater rebate and proposed two additional high efficiency measures, programmable thermostats and smart showerheads, with a reduced annual program budget of $529,300. As of the date of the instant filing, the application is pending Staff review and a Commission Decision.

Southwest is proposing to supplement the program to improve customer participation. Southwest proposes to include two additional new high efficiency measures: tankless water heaters and a high efficiency clothes washer and dryer combination. The measures now proposed for inclusion in the revised Consumer Products program include the following: high-efficiency water heating appliances (tankless and storage), ENERGY STAR® qualified clothes washers and high-efficiency natural gas clothes dryers (purchased together), ENERGY STAR® programmable thermostats, and Roadrunner Evolve thermo-actuated low-flow showerheads (smart showerheads).

Based on market research, Southwest also proposes to expand eligibility requirements to include small commercial participants and remove any reference to residential limitations. Southwest proposes an annual program budget of $529,300 for 2009 and $700,000 for 2010. Southwest originally applied for a three-year planning horizon for the Consumer Products program. However, in an effort to be consistent with the existing filing and Southwest's other DSM programs, Southwest requests a revision to to the planning horizon to two years. The program specifications below detail Southwest's Consumer Products program for program years 2009 – 2010.

Program Overview

Incentive rebates will be offered to the participating customer on qualified program measures upon proof of purchase and installation. In addition, Southwest is exploring the possibility of point-of-sale coupons, which would be directly applied by the retailer at the time of purchase. Southwest would reimburse the retailer directly and the customer would receive the incentive immediately at the time of purchase. Southwest is currently in discussions with a national retailer to develop the point-of-sale option. Implementation is dependent upon the retailer's cooperation.

Program Description

The measures to be included in the Consumer Products program are: high-efficiency water heating appliances (tankless and storage), ENERGY STAR® qualified clothes washers and high-efficiency natural gas clothes dryers (purchased together), ENERGY STAR® programmable thermostats, and Roadrunner Evolve thermo-actuated low-flow showerheads (smart showerheads).

Program Objective

The overall objective of this energy-efficiency program is to provide cost-effective savings on customer natural gas usage by offering incentives to Southwest's customers to purchase selected energy products. The program will seek to increase customer awareness and use of energy-efficient practices and new technologies in new and existing residential homes and small commercial applications to achieve cost-effective savings.

PROGRAM DESIGN

Qualifying Customers

All active Southwest residential and small commercial customers located in Southwest's Arizona service areas are eligible to participate in the program. In addition, new home builders constructing homes in Southwest's Arizona service areas would be eligible for the tankless natural gas water heater incentive. A qualifying premise must be located within Southwest's Arizona service areas.

List of Qualified Conservation and Energy Efficiency Measures

Only equipment meeting the program energy efficiency guidelines shown in Table 1 will be eligible for an incentive. Qualifying appliance specifications will be reviewed annually and adjusted, as necessary, to reflect any changes in national efficiency standards.

Table 1 – Qualifying Measure Specifications

Measure	Specification
High-Efficiency Gas Storage Water Heater	Energy Factor (EF) .62 and greater
Tankless Gas Water Heater	Energy Factor (EF) .82 and greater
ENERGY STAR® Clothes Washer[1]	Modified Energy Factor (MEF) between 1.80 to 1.99 and Water Factor (WF) less than 8.0, requires gas water heating and must be purchased with qualifying high-efficiency gas clothes dryer
High-Efficiency Gas Clothes Dryer	Moisture sensor installed, must be purchased with qualifying ENERGY STAR® clothes washer
ENERGY STAR® Programmable Thermostat	Accuracy of +/- 2 degrees; four program periods per day
Smart Showerhead	Showerstart Technology (trickle/savings mode activated when water reaches 95°F), 1.59 gallons per minute

[1] The MEF is defined as the capacity of a clothes washer divided by the per-cycle energy requirements for the clothes washer. Both the original efficiency standards and the original ENERGY STAR® criteria used the energy factor, which calculated the denominator using mechanical and water heating energy requirements. The MEF includes the energy requirement for drying clothes in the calculation. Clothes washers with faster spin cycles can extract more water from the clothes, thus reducing the energy required for drying clothes. With the new Appendix J1 test procedure, the inclusion of dryer energy makes it possible for an ENERGY STAR® qualified clothes washer to use almost as much energy and water as a non-qualified model as long as the remaining moisture content is very low. Models accomplish the low remaining moisture contents through very high spin speeds. These models will save substantial energy through shorter drying times, but the savings are only realized when the dryer energy is included.

High-Efficiency Gas Storage Water Heater

Customers can receive a rebate for installing a high-efficiency natural gas storage water heater with an EF of 0.62 or greater. Qualifying water heaters will have a minimum of 29 gallons and a maximum of 75 gallons in capacity. The capacity variations will allow for mobile home residents, large single-family residences, and small commercial facilities to participate in the program.

Tankless Natural Gas Water Heaters

Customers and new home builders can receive a rebate for installing a natural gas tankless water heater with an EF of 0.82 and greater, and less than 200,000 btu/hr input. Given the high cost of retrofits for tankless water heaters, Southwest is proposing to make the measure available for new home builders in addition to existing residential and small commercial customers. Since this measure is typically installed by a contractor, they must be installed per local building code or other requirements as applicable.

ENERGY STAR® Clothes Washers and High-Efficiency Natural Gas Clothes Dryers (purchased together)

Customers can receive a rebate for installing an ENERGY STAR® qualified clothes washer with an MEF between 1.80 and 1.99 and a WF less than 8.0; and a natural gas dryer with a moisture sensor installed. This sensor turns the dryer off, based upon the remaining moisture content of the clothes, reducing drying time and thereby energy use. Customers must purchase both the clothes washer and dryer together to receive the rebate.

Smart Showerhead

Customers can receive a rebate for installing a Roadrunner Evolve thermo-actuated low-flow showerhead with Showerstart Technology (trickle/savings mode activated when water reaches 95°F) and flows of 1.59 gallons of water per minute.

ENERGY STAR® Programmable Thermostats

Customers can receive a rebate for installing an ENERGY STAR® programmable thermostat with an accuracy of +/- 2 degrees and at least four program periods per day for energy-saving setbacks/setups.

Programmable thermostats save energy and money by reducing the amount of time heating and cooling systems operate. Southwest proposes the energy savings will be substantial with or without the ENERGY STAR® label, and program requirements may be adjusted to continue to achieve optimal energy savings. When programmed properly, heating and cooling systems will operate less frequently, consume less energy, and lower utility bills. Today's user-friendly programmable thermostats are more likely to change customer behavior and motivate customers to setback or setup thermostat settings than previous models available. Rising energy costs provide further incentives for customers to earn energy savings through setback programming. All of this combined with Southwest's proposed educational program and the planned educational efforts of the EPA will ensure continued energy savings.

Program Incentives

To receive an incentive, customers must complete and submit an application for rebate payment after they purchase and install a qualifying program measure. The applications will be available online at the Southwest website (www.swgas.com), as well as through the Southwest Energy Services customer hotline (1-800-654-2765). The application may be requested by phone, e-mail, or an after-hours voicemail message. Southwest is also exploring the possibility of point-of-sale coupons, which would be applied by the retailer at the time of purchase. Southwest would reimburse the retailer directly and the customer would receive the incentive immediately at the time of purchase. Southwest proposes to provide written notification to the Director of Utilities within 30 days of any community agency changes.

Incentive amounts are provided in Table 2 below. Southwest determined the amounts by reviewing the best available information on the incremental cost of the equipment,

maintaining the minimum incentive levels needed to constitute a feasible marketing message to positively affect customer behavior, and overall program cost-effectiveness.

Table 2 – Measure Incentives and Incremental Customer Costs

Measure	Incentive	Incremental Customer Cost ($/unit)
High-Efficiency Gas Storage Water Heater	$ 100	$ 100
Tankless Gas Water Heater	$ 200	$ 800
ENERGY STAR® Clothes Washer and High-Efficiency Gas Clothes Dryer	$ 200	$ 200
ENERGY STAR® Programmable Thermostat	$ 20	$ 20
Smart Showerhead	$ 30	$ 40

Incentive Limitations

The following requirements apply for all measures:

- Measures must be installed in premises with an active Southwest account or through a certified home builder within Southwest's Arizona service areas.
- Measures must be purchased new, not used or leased.
- Incentives for all measures, excluding tankless water heaters, will be paid for up to two of each type of measure purchased and installed per separate premise. For example, an incentive will be paid for up to two high-efficiency natural gas storage water heaters and up to two smart showerheads, etc. purchased and installed per qualifying premise.
- Due to the nature in which tankless water heaters may be installed throughout the home during new home construction, incentives will not be limited per household.
- New home builders participating in Southwest's ENERGY STAR® Home (EStar) program are not eligible to participate in the tankless natural gas water heater measure.

Program Participation

Table 3 details the number of estimated measures Southwest anticipates will be purchased each year of the two-year program.

Table 3 – Measure Participation

Measure	Number of Measures/Participation	
	2009	2010
High-Efficiency Gas Storage Water Heater	815	1,110
Tankless Gas Water Heater	815	1,110
ENERGY STAR® Clothes Washer and High-Efficiency Gas Clothes Dryer	815	1,110
ENERGY STAR® Programmable Thermostat	815	1,110
Smart Showerhead	815	1,110

Program Outreach

To maximize participation in the program, strategic outreach will be targeted to both customers and distributors. An outreach campaign will increase customer, retailer and contractor awareness of the program and the benefits of purchasing, selling, and installing cost-effective high-efficiency appliances.

As with all Southwest DSM programs, education and awareness outreach will incorporate this program into the overall energy efficiency campaign advertisements and strategies.

The objectives of the outreach efforts will be to increase sales of ENERGY STAR® qualified appliances and high-efficiency equipment to existing Southwest customers; and to increase customer awareness of the incentive offers and the benefits of purchasing high-efficiency and ENERGY STAR® qualified products.

Target Audiences

Southwest's primary target audience is residential and small commercial consumers for all measures with the exception of tankless water heaters, which will also include new home builders.

Southwest's secondary target audience is trade allies including retailers, distributors, and manufacturers.

Tools and Resources

Southwest may employ a variety of the following tools and resources to maximize participation in the program including point-of-purchase materials, brochures, retail events, cooperative advertising, direct mailings, bill inserts, outreach events, trade ally packets, and website announcements.

MEASUREMENT AND EVALUATION

Southwest will track and evaluate the following:

- Rebates processed
- Energy savings – therms and kilowatt-hours
- Number of inquiries
- Number of website hits
- Number of measures installed
- Participating businesses

Other marketing data may also be obtained via Southwest's website. Southwest will audit a percentage of incentive recipients to ensure the measure has been installed at the specified premise.

Southwest will evaluate the success of each measure annually and propose changes to the program as necessary.

BUDGET

Southwest proposes a total annual program budget of $529,300 for 2009 and $700,000 for 2010. See Table 4 for administrative, outreach, and incentive details.

Southwest believes that achieving optimal funding and program performance requires regular ongoing dialog among the stakeholders, including flexibility to easily and quickly modify programs and spending as conditions change. Southwest requests flexibility to move funds from measure to measure to ensure all available funds are disbursed in a way to achieve the overall program goals. In order to spend all program funds each calendar year, Southwest also requests the flexibility to redistribute any unspent administration and outreach funds to the incentive categories.

Table 4 – Arizona Total Estimated Budget

Residential Consumer Products Energy-Efficient Program Total Estimated Budget				
Appliance	**2009**		**2010**	
Administration	$	44,418	$	52,868
Outreach	$	36,632	$	36,632
Incentives/Rebates	$	448,250	$	610,500
Total	**$**	**529,300**	**$**	**700,000**

Administrative, outreach, and incentive costs will be tracked, accounted for and assigned to each area as they are disbursed.

COST-EFFECTIVENESS TEST RESULTS

The cost-effectiveness test ratio for the Consumer Products program is 7.41. Tables 5, 6, and 7 show the cost-benefit overview, projected annual savings, and projected lifetime savings.

Table 5 – Cost-Benefit Overview

Cost-Benefit Overview Lifetime Savings	
Present Value of Savings	$13,615,085
Present Value of Costs	$1,837,379
Net Societal Benefit	$11,777,706
Cost-Effectiveness Ratio	**7.41**

Table 6 - Projected Annual Savings

Measure	Unit Gross Annual Savings (therms)	Number of Measures/ Participation	Total Gross Annual Savings (therms)
High-Efficiency Gas Storage Water Heater	19.0	815	15,485
Tankless Gas Water Heater	102.0	815	83,130
ENERGY STAR® Clothes Washer and High-Efficiency Gas Clothes Dryer	26.0	815	21,190
ENERGY STAR® Programmable Thermostat	18.6	815	15,159
Smart Showerhead	6.8	815	5,542
Total		**4,075**	**140,506**

Table 7 – Projected Lifetime Savings

Energy and Environmental Benefit Overview Lifetime Savings		
Natural Gas (Therms)	**Electricity (MWh)**	**CO_2 (tons)**
5,253,325	104,044	3,156,554

COMMERCIAL EQUIPMENT

COMMERCIAL EQUIPMENT PROGRAM

OVERVIEW

Program Description

On September 28, 2007, Southwest's Commercial Equipment program was approved by the Commission in Decision No. 69880. Southwest offers the Commercial Equipment program for both new and existing commercial customers, It is designed to encourage the purchase of higher efficiency storage water heaters, griddles, and steamers by providing incentive rebates. These customers represent any establishment where such appliances are utilized, including restaurants, schools, hospitals, and churches.

Southwest is proposing at this time to revise the existing Commercial Equipment program to include tankless water heaters, combination ovens, and fryers.

On June 28, 2007, in Decision No. 69666, the Commission approved the Pre-rinse Spray Valve component of the Commercial Equipment program. Southwest is proposing at this time to remove this program measure from the Commercial Equipment program. The spray valve program was initially proposed as a temporary program to be administered by the Arizona Department of Water Resources (ADWR). ADWR has experienced department budget cuts which have resulted in the loss of its installation sub-contractor. Southwest requests authority to reallocate the budget for the pre-rinse spray valve measure to the remaining measures in the Commercial Equipment program.

The commercial appliances to be included in the program use a large amount of energy; and therefore, the potential for energy savings is significant, but initial cost is high. However, this is an obstacle that can generally be overcome with appropriate financial incentives, coupled with education on the benefits of greater energy efficiency.

Program Objective

The overall objective of this energy efficiency program is to reduce customer natural gas usage by offering incentive rebates to Southwest's commercial customers. The program will seek to increase commercial customer awareness and use of energy efficient practices and new technologies. Because commercial appliances use a large amount of energy, the rationale for the program is the potential for significant energy savings.

PROGRAM DESIGN

Qualifying Customers

This program will be available to both new and existing commercial customers located in Southwest's Arizona service areas.

List of Qualified Conservation and Energy-Efficient Measures

Only equipment meeting the program energy efficiency guidelines shown in Table 1 will be eligible for an incentive. Qualifying appliance specifications will be reviewed annually and adjusted, as necessary, to reflect changing national efficiency standards.

Table 1 – Qualifying Measure Specifications

Measure	Additional Requirements	Minimum Efficiency Requirements
High-Efficiency Gas Storage Water Heater	100,000 Btu/hr input and greater	90% Efficiency and Greater
Tankless Water Heaters	200,000 Btu/hr input and greater	80% Efficiency and Greater
High-Efficiency Gas Griddle	-	38% Combustion Efficiency
ENERGY STAR® High-Efficiency Steam Cooker	3-pan = idle rate 6,250 Btu/hr	38% Combustion Efficiency
	4-pan = idle rate 8,350 Btu/hr or less	38% Combustion Efficiency
	5-pan = idle rate 10,400 Btu/hr or less	38% Combustion Efficiency
	6-pan = idle rate 12,500 Btu/hr or less	38% Combustion Efficiency
ENERGY STAR® High-Efficiency Fryer	9,000 Btu/hr or less	50% Combustion Efficiency
Combination Oven	-	40% Combustion Efficiency

High-Efficiency Commercial Natural Gas Water Heater

Customers will receive a rebate for installing a high-efficiency commercial natural gas storage water heater with an efficiency rating of 90 percent and greater or tankless water heater with an efficiency rating of 80 percent or greater, and an input of 100,000 Btu/hour and greater. Commercial water heaters account for approximately 11 percent of the total energy load for the average commercial facility. A hospitality facility may use up to 40 percent of its energy for heating water.

High-Efficiency Commercial Natural Gas Griddle

Customers will receive a rebate for installing a high-efficiency commercial natural gas griddle with a combustion efficiency rate of 38 percent and higher. High-efficiency griddles save energy by transferring a greater percentage of the heat produced by the combustion process to the griddle plate that is used to cook the food product. This is accomplished by optimizing the combustion and/or improving the effectiveness of heat transfer from the "flame" to the "food".

High-Efficiency Commercial Natural Gas Steam Cooker

Customers will receive a rebate for installing an ENERGY STAR® high-efficiency commercial natural gas steamer with combustion efficiency rate of 38 percent or higher and an idle rate commensurate with ENERGY STAR® specifications, identified in Table 1. Commercial steam cookers are typically operated from 8 to 12 hours per day, 365 days per year, and they also spend a significant portion of their operation time idling. For example, even in a busy restaurant, commercial steam cookers may be idle 75 percent of the time. ENERGY STAR® gas steam cookers use shorter cook times and higher production rates, reduce heat loss because of better insulation, and meet maximum idle energy rates. ENERGY STAR® qualified steam cookers also save water because they do not require water to be heated the entire time they are on.

High-Efficiency Commercial Natural Gas Fryer

Customers will receive a rebate for installing an ENERGY STAR® high-efficiency commercial natural gas fryer with a combustion efficiency rate of 50 percent or higher and an idle rate of 9,000 Btu/hr. Commercial fryers also typically operate from 8 to 12 hours per day, 365 days per year, and cook approximately 100 to 150 pounds of food a day. ENERGY STAR® fryers offer shorter cook times and higher production rates through advanced burner and heat exchanger designs.

High-Efficiency Commercial Natural Gas Combination Oven

Customers will receive a rebate for installing a high-efficiency commercial natural gas combination oven with a combustion efficiency rate of 40 percent or higher. Gas combination ovens are designed to create and deliver two of the most popular forms of commercial cooking heat transfer – pressure-less (atmospheric) steam and forced convection hot air. These two primary cooking methods may be used separately or simultaneously. Combination ovens are a cost-effective investment in cutting edge equipment that offer user-friendly, multiple mode cooking functions along with reduced operational and energy costs.

Program Incentives

To receive an incentive, customers must complete an application for a rebate after they purchase and install a qualifying program measure. The applications will be available online at the Southwest website (www.swgas.com), as well as through the Southwest Energy Services customer hotline (1-800-654-2765). The application may be requested by phone, e-

mail, or an after-hours voicemail message. Rebates will be processed by Southwest or its designate.

Incentive amounts are shown in Table 2 below. Due to the high initial cost of high-efficiency equipment, incentives equating to the full amount of the incremental cost are vital to the success of this program and to the desired market transformation. Depending on market conditions and program success, the total per-customer cap may be adjusted after program Year 1.

Table 2 – Measure Incentives and Incremental Customer Costs

Measure	Incremental Cost	Incentive Amount
High-Efficiency Gas Storage Water Heater	$ 1,700	50% up to $1,700
Tankless Water Heater	$ 400	50% up to $ 400
High-Efficiency Gas Griddle	$ 2,100	50% up to $2,100
ENERGY STAR® High-Efficiency Steam Cooker	$ 1,500	50% up to $1,500
ENERGY STAR® High-Efficiency Fryer	$ 2,500	50% up to $2,500
Combination Oven	$ 4,000	50% up to $2,500

Incentive Limitations

The following requirements apply for all measures:

- Measures must be installed in commercial businesses with an active Southwest account within Southwest's Arizona service areas.
- Measures must be purchased new, not used or leased.
- Incentives for all measures will be paid for up to two of each type of measure purchased and installed per separate premise. For example, an incentive will be paid for up to two high-efficiency commercial natural gas storage water heaters and up to two high-efficiency commercial natural gas fryers purchased and installed per qualifying premise.

Program Participation

Table 3 details the number of estimated measures Southwest anticipates will be purchased each year of the two-year program.

Table 3 – Measure Participation

Measure	Number of Measures/Participation
High-Efficiency Gas Storage Water Heater	150
Tankless Water Heater	165
High-Efficiency Gas Griddle	55
ENERGY STAR® High-Efficiency Steam Cooker	50
ENERGY STAR® High-Efficiency Fryer	50
Combination Oven	75

Program Outreach

Southwest's Service Planning representatives will work closely with commercial customers to encourage the installation of high-efficiency program measures.

As with all Southwest energy efficiency programs, education and awareness outreach will incorporate this program into the overall energy efficiency campaign advertisements and strategies.

The objectives of the outreach efforts will be to increase sales of ENERGY STAR® qualified appliances and high-efficiency equipment to existing Southwest commercial customers; and to increase customer awareness of the incentive offers and the benefits of purchasing high-efficiency and ENERGY STAR® qualified products.

Target Audiences

Southwest's primary target audience is all commercial customers located in Southwest's Arizona service areas.

Southwest's secondary target audience is trade allies, including retailers, distributors, and manufacturers.

Tools and Resources

Southwest may employ a variety of the following tools and resources to maximize participation in the program: magazine and radio ads; informational postcards; trade shows, seminars, workshops; and website announcements. Southwest's Service Planning representatives will work closely with commercial customers to assist with and encourage their purchase and installation decisions related to high-efficiency equipment.

MEASUREMENT AND EVALUATION

Southwest will track and evaluate the following:

- Rebates processed
- Energy savings – therms
- Number of website hits
- Number of measures installed
- Participating businesses
- Attendance at educational events

Other marketing data may also be obtained via Southwest's website. Southwest will audit a percentage of incentive recipients to ensure the measure has been installed at the specified premise.

Southwest will evaluate the success of each measure annually and propose changes to the program as necessary.

BUDGET

Southwest proposes a total annual budget of $990,700 for 2009 and $1,111,000 for 2010. Southwest is proposing an increase in the budget due to the increased number of incentives being offered and expected to be utilized. See Table 4 for administrative, outreach and incentive details.

Table 4 - Arizona Total Estimated Budget

Commercial Energy-Efficient Equipment Program Arizona Total Estimated Budget		
Description	**2009**	**2010**
Administration	$ 41,500	$ 41,500
Outreach	$ 125,000	$ 125,000
Incentives/Rebates	$ 824,200	$ 944,500
Total	**$ 990,700**	**$ 1,111,000**

COST-EFFECTIVENESS TEST RESULTS

The cost-effectiveness ratio for the Commercial Equipment program is 3.76. Tables 7, 8, and 9 show the cost-benefit overview, projected annual savings, and projected lifetime savings.

Table 7 – Cost-Benefit Overview

Cost-Benefit Overview Lifetime Savings	
Present Value of Savings	$6,920,298
Present Value of Costs	$1,841,356
Net Societal Benefit	$5,078,942
Cost-Effectiveness Ratio	**3.76**

Table 8 – Projected Annual Savings

Measure	Unit Gross Annual Savings (therms)	Number of Measures/ Participation	Total Gross Annual Savings (therms)
High-Efficiency Gas Storage Water Heater	406	150	60,900
Tankless Water Heater	102	165	16,830
High-Efficiency Gas Griddle	88	55	4,840
ENERGY STAR® High-Efficiency Steam Cooker	353	50	17,650
ENERGY STAR® High-Efficiency Fryer	396	50	19,800
Combination Oven	403	75	30,225
Total		**545**	**150,245**

Table 9 – Projected Lifetime Savings

Energy and Environmental Benefit Overview Lifetime Savings		
Natural Gas (Therms)	Electricity (MWh)	CO2 (tons)
2,524,776	190,285	1,586,408

LARGE COMMERCIAL ENERGY-EFFICIENT BOILER

LARGE COMMERCIAL ENERGY-EFFICIENT BOILER PROGRAM

OVERVIEW

Program Description

Southwest Gas Corporation (Southwest) proposes the Large Commercial Energy Efficient Boiler program for both new and existing large commercial and industrial customers. The program is designed to encourage the maintenance, replacement and new purchase of high-efficiency boilers. These customers represent any establishment where boilers are utilized, including, but not limited to, manufacturing plants, colleges, universities, and hospitals.

Commercial boilers are utilized by hundreds of Southwest's Arizona customers. This equipment often consumes the majority of the natural gas used on-site. Boiler maintenance and adjustments are often neglected due to the fact that the equipment continues to produce adequate amounts of steam or hot water, but at degraded efficiency levels. In addition, many customers are operating boiler systems with outdated controls, steam traps, or other equipment that decreases potential efficiency. Some boilers simply need to be replaced with the newer technology.

Southwest's boiler efficiency program is designed to initially address improperly tuned boilers through offsetting a portion of the tune-up costs. In addition, incentive rebate dollars will be available for boiler upgrades, high-efficiency boiler replacements, and new high-efficiency boiler installations.

The commercial and industrial boilers to be included in the program use a large amount of energy; and therefore, the potential for energy savings is significant, but the initial cost is high. This is an obstacle that can be overcome, however, with appropriate financial incentives, coupled with education on the benefits of greater energy efficiency.

Program Objective

The overall objective of this energy efficiency program is to reduce customer natural gas usage by offering rebates to Southwest's new and existing large commercial and industrial customers.

Reduced natural gas consumption, while achieving equal steam or hot water output, reduces the overall consumption of natural gas while enabling customers to continue to meet their production requirements. In addition, emission reductions will be realized based on the reduced natural gas consumption. The program will seek to increase large commercial and industrial customer awareness of proper maintenance and use of energy efficient boilers. This program will achieve fuel savings for consumers by promoting increased efficiency in boiler

operations. This will be accomplished by encouraging the appropriate cost-effective customer behavior to tune, upgrade, and purchase new or replacement boilers.

PROGRAM DESIGN

Qualifying Customers

This program will be available to both new and existing large commercial and industrial customers that have existing or required boiler capacity of greater than 2.5 million British Thermal Units per hour (2.5 MMBTU) input and are located in Southwest's Arizona service areas.

List of Qualified Conservation and Energy Efficiency Measures

Only measures meeting the program energy efficiency guidelines shown below will be eligible for an incentive. Qualifying measure specifications will be reviewed annually and adjusted, as necessary, to reflect any changes to national efficiency standards. Efficiency is based on combustion efficiency using natural gas as a fuel.

Table 1

Measure [1]	Specifications
Boiler Tune-ups	9 point inspection (see below)
Modular Burner Controls	Greater than or equal to 5:1 turndown ratio
O_2 Trim Control Pads	N/A
Steam Trap Survey	N/A
Steam Trap Replacement/Parts	N/A
New Boilers: Non-condensing	85% [2] ,all systems must also include Modular Burner Controls and O_2 Trim Control Pads

[1] All boilers and related measures must use natural gas as the primary fuel, but can have duel fuel capability for backup.
[2] Combustion efficiency

A boiler is a closed vessel that burns natural gas to heat water or convert water to steam. The hot water or steam that boilers produce can be used for central heating, water heating, and manufacturing processes. Because the properties of steam allow it to retain higher heat values longer, steam systems are often used to heat multiple buildings from a centralized area, eliminating the need for furnaces or boilers in each building. As with hot water systems, once the heat is emitted, the condensed steam is returned to the boiler for reprocessing. The intricacies of design and varying configurations of different boiler applications necessitate regular maintenance to ensure the units are operating efficiently. Boilers generally account for more than 40 percent of the heating energy in commercial buildings

High-Efficiency Boiler Tune-ups

Customers will receive a rebate for completing a high-efficiency nine-point boiler tune-up on their natural gas boiler. Regular tune-ups not only cut costs, they also increase the life of the system, reduce breakdowns and repair costs, and cut the amount of carbon monoxide, smoke, and other pollutants emitted into the atmosphere by fossil-fueled systems.

The following nine-point inspection requirements must be documented to qualify for the tune-up incentive. The requirements are:

- Measure combustion efficiency using an electronic flue gas analyzer. (Copy of combustion analyzer test must be included.)
- Adjust air flow and reduce excessive stack temperatures.
- Adjust burner and gas input, manual or motorized draft control.
- Clean burners, combustion chamber and heat exchange surface, when weather or operating schedule permits.
- Clean and inspect burner nozzles.
- Check for proper venting.
- Complete visual inspection of system piping and insulation.
- Check safety controls.
- Check adequacy of combustion-air intake.

Upon completion of the tune-up, customers will be better prepared to determine which of the other high-efficiency measures could maximize the overall boiler performance.

High-Efficiency Non-Condensing Boilers

Customers will receive a rebate for purchasing a high-efficiency, non-condensing boiler with an 85 percent or greater annual combustion efficiency, and an input rating of 2.5 MMBTU and greater.

Program Incentives

Incentives will be provided to Southwest's existing large commercial or industrial customers to encourage boiler tune-ups, efficiency upgrades, boiler purchases and boiler replacements.

Customers will first complete boiler tune-up applications. Based on the results of the boiler tune-up, the customer will be better prepared to determine the benefits of potential boiler upgrades and/or replacement, which could qualify for additional rebate dollars. Southwest will continue to work with the customers through all phases of implementation and will oversee the delivery of appropriate rebates.

To receive an incentive, customers must complete an application for rebate after the successful completion of a boiler tune-up and/or installation of qualifying program measures. The applications will be available online at the Southwest website (www.swgas.com), as well as through the Southwest Energy Services customer hotline (1-800-654-2765). The

application may be requested by phone, e-mail, or an after-hours voicemail message. Rebates will be processed by Southwest or its designate.

Incentive amounts are shown in Table 2 below.

Table 2 – Measure Incentives and Incremental Customer Costs

Measure	Incentive Amount	Incremental Cost
Boiler Tune-ups	75% up to $375	$300 - $500 per boiler
Modular Burner Controls	25% up to $5,000	$16,000 - $50,000
O_2 Trim Control Pads	25% up to $5,000	$13,000 - $20,000
Steam Trap Survey	25% up to $250	$1,000 - $1,500
Steam Trap Replacement/Parts	25% up to $250/trap, maximum $10,000/facility	$150 - $500 per trap
New Boilers: Non-condensing[1]	$1,000/MMBTUH[2] up to $20,000	$25,000 - $300,000+

[1] To qualify for this incentive, new or replacement boiler systems must include Modular Burner Controls and O_2 Trim Control Pads.
[2] MMBTUH is based on boiler input capacity. 1 MMBTUH = 1 million BTU per hour

Incentive Limitations

The following requirements apply for all measures:

- Measures must be installed in large commercial or industrial businesses with an active Southwest account within Southwest's Arizona service areas.
- Natural gas must be the primary fuel, but systems with dual fuel backup can qualify.
- The efficiency of the boiler will be determined by the H.I. Heating Boiler Standards as defined in ANSI/ASHRAE/IESNA Standard 90.1-2004.
- Rebates cannot exceed 50 percent of the project cost (including equipment and labor).
- New or replacement boiler systems must include Modular Burner Controls and O_2 Trim Control Pads and are not eligible for individual rebates for the two components.
- There is no limit on the number of tune-up rebates that may be awarded to a customer for different qualifying boilers, but each boiler is limited to one tune-up rebate every 12 months. A separate rebate application must be submitted for each boiler.
- Each facility will be limited to one steam trap survey per 36 months.

Program Participation

Table 3 details the number of estimated measures Southwest anticipates will be purchased each year of the two-year program.

Table 3 – Measure Participation

Measure	2009 Number of Measures/Participation	2010 Number of Measures/Participation
Boiler Tune-ups	200	230
Modular Burner Controls	25	30
O_2 Trim Control Pads	25	30
Steam Trap Survey/Replacement Parts	25	30
New Boilers: Non-condensing	6	8

Program Outreach

To maximize participation in the program, a strategic outreach plan will be targeted to large commercial and industrial customers. An outreach campaign will increase customer and manufacturer awareness of the program and the benefits of purchasing, selling, and installing cost-effective high-efficiency equipment. Southwest Key Account Management (KAM) engineers will work closely with customers to encourage the installation of high-efficiency program measures.

As with all Southwest energy efficiency programs, education and awareness outreach will incorporate this program into the overall energy efficiency campaign advertisements and strategies. The objectives of the outreach efforts will be to provide education and incentives that motivate the customers to run boilers at optimum efficiency and offset the incremental costs associated with the tune-up or modification of existing boiler systems.

Target Audiences

Southwest's primary target audience is all large commercial and industrial customers located in Southwest's Arizona service areas.

Southwest's secondary target audience is trade allies, including retailers, distributors, and manufacturers.

Tools and Resources

Southwest may employ a variety of the following tools and resources to maximize participation in the program; magazine and radio ads; informational postcards; trade shows; seminars or workshops; the Southwest Gas Energyline, which uses e-mails to distribute energy information to targeted customers; direct customer contacts with Southwest KAM engineers; direct mailings; and website announcements.

MEASUREMENT AND EVALUATION

Southwest will track and evaluate the following:

- Rebates processed
- Energy savings – therms
- Number of website hits
- Number of measures installed
- Participating businesses
- Attendance at educational events

Other marketing data may also be obtained via Southwest's website. Southwest will audit a percentage of incentive recipients to ensure the measure has been installed at the specified premise.

Southwest will evaluate the success of each measure annually and propose changes to the program as necessary.

BUDGET

Southwest proposes a total annual program budget of $500,000 for 2009 and $650,000 for 2010. See Table 4 for administrative, outreach, and incentive details.

Program costs are estimates based on currently available information. Program dollars may be adjusted among categories of expenditures, based on program effectiveness. This flexibility will ensure optimal performance for the total budget amount.

Table 4 - Arizona Total Estimated Budget

Large Commercial Boiler Energy-Efficient Program Arizona Total Estimated Budget		
Description	**2009**	**2010**
Administration	$ 21,000	$ 22,250
Outreach	$ 34,000	$ 34,000
Incentives/Rebates	$ 445,000	$ 593,750
Total	**$ 500,000**	**$ 650,000**

COST-EFFECTIVENESS TEST RESULTS

The cost-effectiveness test ratio for the Large Commercial Energy Efficient Boiler program is 1.93. Tables 7, 8, and 9 show the cost-benefit overview, projected annual savings, and projected lifetime savings.

Table 7 – Cost-Benefit Overview

Cost-Benefit Overview Lifetime Savings	
Present Value of Savings	$6,480,418
Present Value of Costs	$3,365,831
Net Societal Benefit	$3,114,587
Cost-Effectiveness Ratio	**1.93**

Table 8 – Projected Annual Savings

Measure	Unit Gross Annual Savings (therms)	Number of Measures/ Participation	Total Gross Annual Savings (therms)
Boiler Tune-ups	780	200	1,560,000
Modular Burner Controls	1,170	25	29,250
O_2 Trim Control Pads	780	25	19,500
Steam Trap Survey	780	25	19,500
Steam Trap Replacement/Parts	780	25	19,500
New Boilers: Non-condensing	7,800	6	46,800
Total		**306**	**1,694,550**

Table 9 – Projected Lifetime Savings

Energy and Environmental Benefit Overview Lifetime Savings	
Natural Gas (Therms)	CO_2 (tons)
5,541,900	4,371,354

Human, Economic, and Societal Benefits

Reducing natural gas consumption, while still producing the required energy for space conditioning, water heating and processing, reduces pollution and the overall carbon footprint. It also reduces costs associated with additional exploration, drilling and transmission of natural gas to the end-user.

Arizona continues to compete with other states and countries for quality jobs. Energy efficiency will help businesses remain competitive in this global environment. Reduction in natural gas consumption also reduces air emissions. These reductions in aggregate may improve the quality of life for Arizona's citizens.

SOLAR THERMAL ADVANTAGE REBATE

SOLAR THERMAL ADVANTAGE REBATE PROGRAM

OVERVIEW

Program Description

Southwest proposes the Solar Thermal Advantage Rebate (STAR) program for residential customers in Southwest's Arizona service areas. Incentive rebates will be offered on qualified program measures and mailed to the participating customer upon proof of purchase and installation.

Program measures will include solar thermal water heaters and solar thermal space heating utilizing flat plate or integrated storage collectors when installed in conjunction with a natural gas water heater and/or natural gas space heating appliance.

Program Objective

The primary objectives of the STAR program are to increase public awareness of solar thermal hot water and space heating systems; and to reduce customer natural gas usage by providing economically beneficial incentives to install the systems. Long-term customer energy savings will be realized throughout the life of the solar thermal equipment.

PROGRAM DESIGN

Qualifying Customers

All of Southwest's active residential customers located in Southwest's Arizona service areas are eligible to participate in the STAR program. New home builders constructing homes in Southwest's Arizona service areas are also eligible for incentives.

List of Qualified Conservation and Energy Efficiency Measures

Only equipment meeting the STAR program guidelines shown in Table 1 will be eligible for an incentive. Qualifying specifications will be reviewed annually and adjusted, as necessary, to reflect any changes to national efficiency or renewable standards.

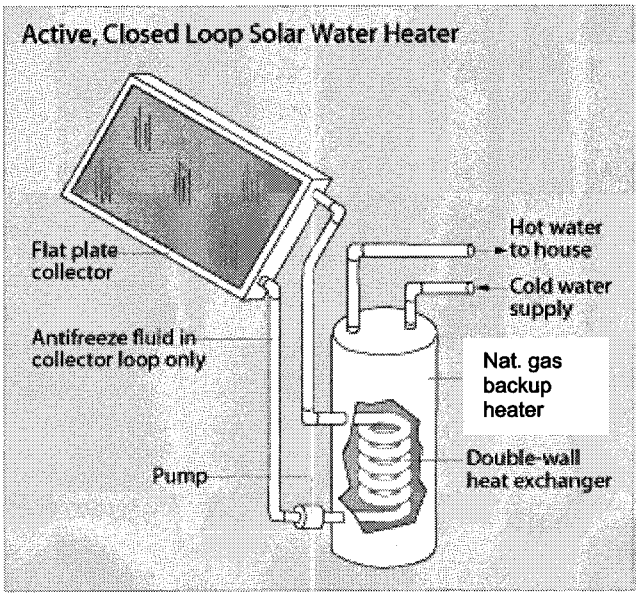
Table 1 – Qualifying Measure Specifications

Measure	Specification
Solar Thermal Water Heating	Natural gas water heating system utilizing flat plate or integrated storage collectors
Solar Thermal Space Heating	Natural Gas as the primary heating source utilizing flat plate collectors

Solar Thermal Water Heaters

Customers will receive a rebate for installing a natural gas solar thermal water heater with flat plate or integrated storage collectors. Solar thermal water heaters represent a well-established, effective, pollution-free technology that has the potential to provide up to 70 percent of the domestic hot water needs of a residence. Figure 1 depicts an active closed loop solar water heater integrated with a natural gas heating component.

Figure 1 – Active, Closed Loop Solar Water Heater



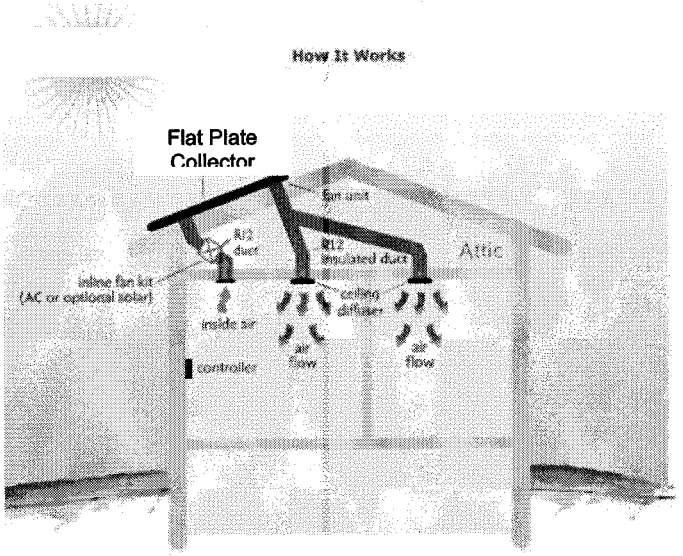
By the end of 2005, 46 million houses worldwide had solar hot water systems, a 14 percent increase over 2004.

Since the 1970s, solar thermal technology has steadily improved. Today's solar thermal hot water systems have an approximate 10-year payback of initial installation costs. Upfront costs and lack of public awareness are barriers to widespread utilization. Southwest proposes this incentive program to increase public awareness and encourage residential customers and home builders to cost-effectively reduce natural gas consumption and make more use of one of Arizona's most abundant resources -- sunshine.

Solar Thermal Space Heaters

Customers will receive a rebate for installing a natural gas solar thermal space heating system with flat plate collectors. Similar to solar thermal water heaters, flat plate collectors are utilized to harness the sun's energy. Solar thermal space heating systems can provide up to 20 percent of a residence's space heating requirements. Figure 2 shows one scenario for the installation and operation of a space heating system, another would be based on hydronic technologies.

Figure 2 – Space Heating System Utilizing a Flat Plate Collector



Program Incentives

To receive an incentive, customers must complete an application for rebate after they purchase and install a qualifying program measure. The applications will be available online at the Southwest website (www.swgas.com), as well as through the Southwest Energy Services customer hotline (1-800-654-2765). The application may be requested by phone, e-mail, or an after-hours voicemail message.

It is important to take a long-term view of this program, in that it could help transform a market that has been hesitant to make the higher initial investment necessary for higher energy savings and the use of renewable technology. Over time, it is expected that the cost differential between standard and solar thermal heating systems could decrease, as awareness and demand for such systems in the marketplace increase. The potential energy savings to be realized can more than justify the financial incentives required to increase customer awareness and participation, and thus, reaping significant reductions in Arizona's overall energy needs.

Incentive amounts are provided in Table 2 below. Depending on market conditions and program success, a total per-customer cap may be considered after the initial program year.

Table 2 – Measure Incentives and Incremental Customer Costs

Measure	Incentive	Incremental Customer Cost ($/unit)
Solar Thermal Water Heating	30% up to $1,500	$6,000
Solar Thermal Space Heating	30% up to $3,000	$3,500

Incentive Limitations

The following requirements apply for all measures:

- Measures must be installed in residences with an active Southwest account within Southwest's Arizona service areas.
- Measures must be purchased new, not used or leased.
- Rebates will be paid to customers who install qualifying measures, with a limit of one of each measure per household.
- Measures must be installed by a licensed contractor.
- Solar hot water systems must be certified by the Solar Rating and Certification Corporation (SRCC) to qualify for this program.
- Solar thermal space heating systems must be installed in residences that utilize natural gas as the primary source for space heating (i.e. natural gas furnace).
- STAR program solar water heating incentives may be applied to systems already receiving incentives from Federal, State, and/or other utilities not to exceed 85 percent of the total installed cost.

Program Participation

Table 3 details the number of estimated measures Southwest anticipates will be purchased each year of the two-year program.

Table 3 – Measure Participation

Measures	Number of Measures/ Participation
Solar Thermal Water Heating	180
Solar Thermal Space Heating	45

Program Outreach

To maximize participation in the program, an outreach plan will be targeted to both customers and builders. An outreach campaign will increase customer and builder awareness of the program and the benefits of purchasing and installing, cost-effective high-efficiency solar thermal water and space heaters.

As with all Southwest DSM programs, education and awareness outreach will incorporate the program into the overall energy efficiency campaign advertisements and strategies.

Target Audiences

Southwest's primary target audience is residential customers located within Southwest's Arizona service areas.

Southwest's secondary target audiences are new home builders featuring natural gas water heating and space heating.

Tools and Resources

Southwest may employ a variety of tools and resources to maximize participation in the program: brochures; retail events; cooperative advertising; direct mailings; bill inserts; outreach events; trade ally packets; and website announcements.

Southwest's Service Planning representatives will also work closely with builders to encourage the installation of solar thermal water or space heating systems.

MEASUREMENT AND EVALUATION

Southwest will track and evaluate the following:

- Number of residents participating
- Measures installed
- Rebates processed
- Energy savings – therms
- Number of website hits
- Attendance at educational events

Other marketing data may also be obtained via Southwest's website. Southwest will audit a percentage of incentive recipients to ensure the measure has been installed at the specified premise.

Southwest will evaluate the success of each measure annually and propose changes to the program as necessary.

BUDGET

Southwest proposes a total annual budget for each year of $500,000 for 2009 and $609,000 for 2010. See Table 4 for administrative, outreach, and incentive details.

Program costs are estimates based on currently available information. Program dollars may be adjusted among categories of expenditures, based on program effectiveness. This flexibility will ensure optimal program performance for the total budget amount.

Table 4 – Arizona Total Estimated Budget

Solar Thermal Advantage Rebate Program Arizona Total Estimated Budget		
Description	**2009**	**2010**
Administration	$ 35,000	$ 36,000
Outreach	$ 60,000	$ 60,000
Incentives/Rebates	$ 405,000	$ 513,000
Total	**$ 500,000**	**$ 609,000**

COST-EFFECTIVENESS TEST RESULTS

The cost-effectiveness ratio for the solar thermal water and space heating program is 0.87. Southwest recommends approval of this program even though the cost-effectiveness is below 1.0 because it promotes the use of an important renewable resource. Additionally, as more customers take advantage of this new technology, the incremental cost of these types of solar improvements should become less costly. If energy prices continue to increase, and the cost of solar systems decline, these systems will become cost-effective in short order. Tables 7, 8, and 9 show the cost-benefit overview, projected annual savings and projected lifetime savings.

Table 7 – Cost Benefit Overview

Cost-Benefit Overview Lifetime Savings	
Present Value of Savings	$1,968,998
Present Value of Costs	$2,267,237
Net Societal Benefit	($298,240)
Cost-Effectiveness Ratio	**0.87**

Table 8 – Projected Annual Savings

Measure	Unit Gross Annual Savings	Number of Measures/ Participation	Total Gross Annual Savings
Solar Thermal Water Heating	120	180	21,600
Solar Thermal Space Heating	104	45	4,680
Total		**225**	**26,280**

Table 9 – Projected Lifetime Savings

Energy and Environmental Benefit Overview Lifetime Savings	
Natural Gas (Therms)	**CO_2 (tons)**
1,496,000	875,160

Solar thermal technology takes advantage of one of Arizona's key energy resources, sunlight, by converting it into heat for space heating and water heating. While Arizona residents already utilize solar thermal heating systems for swimming pools, few residents have installed systems for domestic hot water and space heating.

DSM or energy efficiency programs can work to slow yearly demand increases, thus potentially reducing the need for additional infrastructure and the resources required to produce and deliver energy. This lowers customers' energy bills and helps to stabilize the region's economy.

In addition, a strong market for solar thermal water and space heating systems can reduce Arizona's consumption of natural gas, help reduce and stabilize the price of natural gas for all customers, and reduce global warming pollution.